

length 45; length of nasals 16; length of upper molar series 29; length of mandible 81; length of lower molar series 35.

B.M. no. of type 1. S. 9. 129.

Three examples of this remarkable monkey were procured by Sir H. H. Johnston (one adult and two young) on the east side of Mount Ruwenzori at an altitude of 4000 feet. It is evidently closely allied to *C. rufomitratu*s from the coast, but exhibits quite sufficient differences in colour and markings to entitle it to a distinctive rank. As the species was not seen by the members of the Ruwenzori Expedition, lately returned to England, it must be considered as rare even in its own district.

XXIX.—*On Mammals from Northern Persia, presented to the National Museum by Col. A. C. Bailward.* By OLDFIELD THOMAS, F.R.S.

IN 1905 Col. A. C. Bailward made a shooting-trip across Persia, taking with him Mr. R. B. Woosnam to pay special attention to the collecting of natural history specimens, and he then obtained the series of mammals of which I gave an account during the succeeding winter*.

During the present year Col. Bailward has again been to Persia, taking Mr. Woosnam with him, but this time to the northern part of the country, between Teheran and the Caspian, and there Mr. Woosnam has collected the specimens enumerated below. Few in number as they are, for the trip was quite a short one, they include no less than five new forms, while all of them are most valuable accessions to the Museum, which had previously possessed almost nothing from that region. We thus have reason to be most grateful to Col. Bailward for taking advantage of his trip to increase our National Collections in a region as yet so poorly represented in the Museum; and the marked success of the present expedition should encourage him and others to repeat the experiment.

1. *Pipistrellus Kuhli*, Natt.

♂. 120. Teheran, Persia. 4600'.

A pale form, probably representing *P. lepidus*, Bly.

* P. Z. S. 1905, ii, p. 519.

2. *Pipistrellus pipistrellus*, Schr.

♂. 118. South coast of Caspian. 150'.

3. *Pterygistes noctula*, Schr.

♂. 134, 135. Resht, S. coast of Caspian.

4. *Myotis myosotis*, Bechst.

♂. 132; ♀. 131. Elburz Mts., near Resht. 400'.

5. *Miniopterus Schreibersi pallidus*, subsp. n.♀. 113. South coast of Caspian. Alt. —25 m. 25th March, 1907. B.M. no. 7. 7. 14. 7. *Type*.

Similar to typical *M. Schreibersi* in all essential respects, but the general colour is paler, approximating to Ridgway's "wood-brown," while *Schreibersi* is rather darker than "broccoli-brown." Below, the colour, smoky grey in *Schreibersi*, is more or less suffused with buffy, especially in the inguinal region and along the proximal edge of the interfemoral.

Dimensions of the type (the starred measurements taken in the flesh):—

Forearm 46.5 mm.

*Head and body 55; *tail 57; *ear 12.

Skull: condylo-basal length 15; basisinual length 12; mastoid breadth 9.

All the European *Miniopteri* in the Museum collection are quite similar in colour and equally different from this pale Caspian example.

6. *Crocidura russula caspica*, subsp. n.♂. 106. South coast of Caspian Sea. Alt. —25 m. 16th March, 1907. B.M. no. 7. 7. 14. 8. *Type*.

Like *C. russula monacha*, Thos.†, but larger, with shorter tail and darker belly.

Size markedly larger than in *monacha*. General colour above of exactly the same smoky brown as in that animal, but below it is even darker, being, in fact, of a brown very little lighter than the upper side. Tail of normal *russula* proportions, therefore much shorter than in *monacha*.

Skull large, stouter and heavier than in true *russula*, therefore much larger than in *monacha*, whose skull little exceeds

† From the neighbourhood of Trebizond. Ann. & Mag. Nat. Hist. (7) xvii. p. 417 (1906).

that of *C. mimula*, Mill. Brain-case of the narrow high type characteristic of *C. russula*.

Dimensions of the type (measured in flesh):—

Head and body 77 mm.; tail 38 *; hind foot 14; ear 9.

Skull: condylo-basal length 21; basal length 19; greatest breadth 9·6; height of brain-case from basion 5·4; length of upper tooth-series 9·4.

Hab. and *type* as above.

This Eastern representative of the common *C. russula* is readily distinguishable from any of the described forms of that species by its dark colour, and especially its very dark under surface, which is scarcely lighter than the upper side.

7. *Crocidura leucodon persica*, sp. n.

♂. 127; ♀. 128. Elburz Mts., near Demavend. Alt. 6500'. 2nd May, 1907. B.M. no. 7. 7. 14. 9. *Type*.

“Trapped near a stream in oak-forest.”—*R. B. W.*

Quite like true German *C. leucodon* in size, proportions, and skull, but the fur is shorter (hairs of back about 3·5 mm.) and the colour of the adult is much paler, that of the type being somewhat paler than Ridgway's “drab.” The distribution and sharp definition of the upper and lower colours quite as in *leucodon*.

Skull with the characteristic flattened shape of the brain-case found in true *C. leucodon*.

Dimensions of the type (measured in the flesh):—

Head and body 72 mm.; tail 35; hind foot 12; ear 8.

Skull: condylo-basal length 19; basal length 17; greatest breadth 9·2; height of brain-case from basion 4·6; length of upper tooth-series 9.

Hab. and *type* as above.

This pretty little shrew is readily distinguishable from the European *C. leucodon* by its paler and more drabby colour. From *C. Guldenstaedti*, Pall., it is at once separable by its much shorter tail, as that species, with a trunk-measurement of 72 mm., has a tail 47 mm. in length.

Thanks to the kindness of Dr. Camerano and Dr. Festa, of the Turin Museum, I have been allowed the loan of the typical specimens of de Filippi's *Crocidura fumigata* †, and find that that animal is also a longer-tailed form, the spirit-specimen measuring 60 mm. for the head and body and 42 mm. for the tail. All traces of the original colour have

* Measured on skin. Mr. Woosnam writes 46, which is probably a *lapsus culami* for 36.

† Viaggio in Persia, p. 343 (1865).

unfortunately long vanished from the specimens, but the proportions and skull readily show that it is a different shrew from that now described.

The Trebizond form which I described as *C. leucodon lasius** differs still more from normal European *C. leucodon* both in size and length of tail, and I am now disposed to think it should be recognized as an independent species, whose name would therefore be *Crocidura lasia*.

8. *Mus rattus*, L.

♀. 102, 108, 109. South coast of Caspian. 0'.

9. *Mus musculus*, L.

♂. 100, 101, 104, 133. South coast of Caspian. 0'.

♂. 125, 126. Elburz Mts., near Demavend. 6500'.

10. *Micromys sylvaticus*, L.

♂. 103, 105, 107, 117; ♀. 114, 115, 116. South coast of Caspian. 0'.

♂. 129, 130; ♀. 124. Elburz Mts., near Demavend. 6500'.

11. *Nesokia Bailwardi*, sp. n.

a. ♀. 351. Bunder-i-gaz, S. shore of Caspian. Alt. — 25 m. 25th March, 1907. B.M. no. 7. 7. 14. 30. *Type*.

A member of the *N. Huttoni* group.

External characters as usual, the general colour of the type wood-brown above, rather paler below.

Skull larger and heavier than that of *N. Huttoni*. Superior outline strongly bowed. Nasals short, not broadened in front, evenly but slightly narrowing backwards to the more or less rounded posterior end. Supraorbital ridges very thick and heavy at the postorbital point, abruptly dying away halfway across the parietals. Interparietal fairly large. Bullæ as in *N. Huttoni*. Molars rather small in proportion to the size of the skull.

Dimensions of the type (measured on the spirit-specimen before skinning):—

Head and body 167 mm.; tail 123; hind foot 33; ear 24.

Skull: condylo-basal length 42; basilar length 37; zygomatic breadth 27; nasals, length 12.2, breadth anteriorly 3.9,

* Ann. & Mag. Nat. Hist. (7) xvii. p. 416 (1906).

mesially 3·7; interorbital breadth 6·1; tip to tip of post-orbital processes 10·7; interparietal 4×8 ; palatilar length 23; diastema 14; palatal foramina 5; length of upper molar series (crowns) 6·5, (alveoli) 8·5.

Hab. and *type* as above. The specimen not old, the molars being little worn down and the basilar suture not quite closed.

This *Nesokia* is probably the form referred to *N. Huttoni* by Radde and Walter* in their paper on the mammals of Transcaspia, while they described as new a species ("*N. Boettgeri*") which appears to me to be really assignable to the true *N. Huttoni*, as also, I think, is probably the case with Nehring's "*N. Huttoni* var. *Situnini*" † from Merv. The majority of the measurements of the skull given by Radde and Walter for *N. Boettgeri* might actually have been taken from the typical skull of *N. Huttoni* now in the British Museum (no. 79. 11. 21. 499), while a toptype of *N. H. Satunini* is also quite similar.

N. Bailwardi mainly differs from *N. Huttoni* by its larger size, more bowed skull, and the heavier supraorbital ridges, these characters being the more noteworthy as the typical skull is distinctly younger than that of the Kandahar species. A close ally is described in the succeeding paper.

12. *Microtus terrestris persicus*, de Fil.

♂. 110. S. coast of Caspian Sea. Alt. 0'.

"Trapped on banks of a stream."—*R. B. W.*

As with the type of *Crocidura fumigata*, I have been most kindly allowed the loan of de Filippi's examples of his "*Arvicola amphibius* var. *persicus*" by the authorities of the Turin Museum.

To that form two voles from Van, obtained in 1896 by Major W. H. Williams, were referred by Barrett-Hamilton ‡, and the interest in examining the type was to see if it presented the peculiar rounded character of the molars, to be described further on, which was present in these Van examples.

De Filippi's specimens consist of a stuffed specimen and an imperfect skull; but as it was possible that the two individuals might differ in the character of their teeth, I have been permitted to extract the skull of the stuffed specimen, which must be regarded as the main type, since the external

* Zool. Jahrb. Syst. iv. p. 1036 (1889).

† SB. Ges. nat. Fr. Berl. 1899, p. 108.

‡ Ann. & Mag. Nat. Hist. (7) iii. p. 224 (1899).

characters were alone used by de Filippi to distinguish his variety.

The skull so extracted proves fortunately to be perfect, and is therefore a great improvement on the broken skull on which he based his statement that the osteological characters of the Persian vole were absolutely the same as those of *Arvicola amphibius*. But the statement itself needs practically no modification, for this typical skull has no special peculiarities, and in particular has the normal angular molars found in European water-voles in general. It therefore precisely agrees with Mr. Woosnam's specimen no. 110 from the low-lying shores of the Caspian Sea, a region through which de Filippi also passed; and I am disposed to believe, therefore, that though that author first saw animals of this group at Sultanieh, which is on the plateau south of the Elburz, the actual specimen he brought home and described was from the lower and more northern region. Moreover, in speaking of them at Sultanieh, he says they were abundant then and onwards to the end of his time in Persia, a statement that covers the Caspian as well as the Elburz region. Actual Sultanieh specimens may hereafter upset this conclusion; but in any case I feel compelled to distinguish the round-toothed forms as a different subspecies, to which all the specimens as yet certainly known to come from the plateau belong.

13. *Microtus terrestris armenius*, subsp. n.

♂. 123. Elburz Mts., near Demavend. Alt. 9000'.

[♂. 16, 17. Van, Armenia. Alt. 5000'. Presented by Major W. H. Williams, R.A.]

"Shot in a small stream."—*R. B. W.*

"Dug out of hole by stream."—*W. H. W.*

External characters quite as in *M. t. persicus*, except that the general tone is slightly greyer and the ears are rather shorter.

Skull essentially as in that animal, though the brain-case is, perhaps, a little longer in proportion to its breadth and the nasals incline to be more expanded anteriorly.

Molars with quite the same pattern as in the lowland form, but all the enamel-bound spaces, instead of being sharply angular externally and internally, are rounded, often almost circular, so that there are no real angles, external or internal, either above or below, the teeth having therefore a very peculiar and characteristic appearance, quite unlike that found in normal water-voles.

Dimensions of the type (taken in flesh) :—

Head and body 195 mm.; tail 126; hind foot 29; ear 16.

Skull: condylo-basal length 41·5; basilar length 37·2; greatest breadth 25; nasals 11·2 × 5·6; interorbital constriction 4·8; palatal foramina 7; length of upper molar series (crowns) 9·6, (alveoli) 10·1.

External dimensions of Mr. Woosnam's specimen (measured in flesh) :—

Head and body 174 mm.; tail 136; hind foot 33; ear 16.

Hab. Armenia and N.W. Persia, on plateau. Type from Van, 5000'.

Type. Adult male. B.M. no. 97. 6. 4. 10. Original number 17. Collected 23rd December, 1896, and presented by Major W. H. Williams, R.A.

I can find no evidence that the peculiar rounded character of the molar spaces, as contrasted with their normal angular condition in the type of *persicus* and the Caspian Sea specimen no. 110, is due either to sex, age, or individual variation, and it therefore seems advisable to give a special name to the specimens that show it in spite of their resemblance to the lowland examples in other respects.

14. *Microtus* sp.

♂. 121. Elburz Mts., near Demavend. 4000'.

A small species of the *M. arvalis* group.

15. *Cervus elaphus*, L.

Young ♀. 122. Elburz Mts., near Demavend. 5000'.

XXX.—*A Subdivision of the Old Genus Nesokia, with Descriptions of Three new Members of the Group, and of a Mus from the Andamans.* By OLDFIELD THOMAS.

THE genus *Nesokia* contains three such very distinct and natural groups that in accordance with modern ideas they should be recognized as distinct genera. Their respective characters have already been described by Anderson, Blandford, and myself, but the most tangible may be briefly recapitulated as follows :—